TYPE SKL MOTORS AND GENERATORS
INSTRUCTIONS

Direct-Current

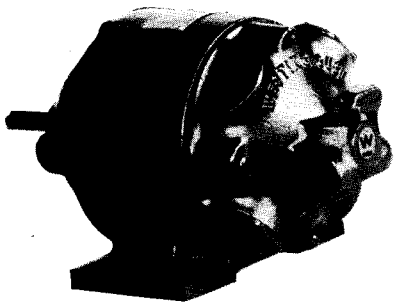

FIG. 1—TYPE SKL FRAME 5

Shunt, Compound and Series

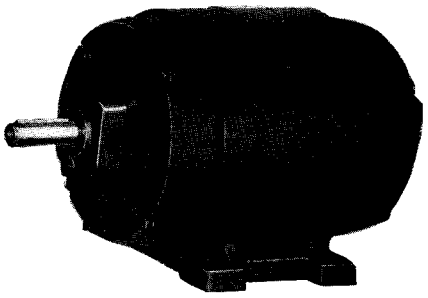

FIG. 2—TYPE SKL FRAME 6

Type SKL motors and generators—are designed to operate on a direct current circuit of the voltage stamped on the nameplate. They will operate satisfactorily on a 5% variation of voltage or speed, but not necessarily in accordance with the standard of performance established for operation at the normal rating. This company assumes no responsibility for their operation outside these limits.

Inspection—After the machine is unpacked, examine carefully to see that no damage has been done during shipment and that the shaft turns freely.

Lubrication, Frame 5—Standard sleeve bearing machines are lubricated with oil saturated wicks. These machines should be oiled with a good grade of light or medium machine oil. Standard ball bearing machines are grease lubricated. In ordinary service, both sleeve and ball bearing machines should be lubricated every three months.

Lubrication, Frame 6—Standard sleeve bearing machines are lubricated with oil saturated wicks. The oil wick chamber is closed with thin metal seals under the oil wick plugs. After the machine is mounted puncture the upper seal, or if the oil wick plugs are on the sides, puncture the seal on the side from which it is most convenient to oil. Oil through this hole with a good grade of light or medium machine oil. Standard ball bearing machines are grease lubricated. The bearing caps may be turned so the grease cups will be in the most convenient position for lubricating. In ordinary service, both sleeve and ball bearing machines should be lubricated once every three months.

Mounting, Frame 5—Mount the machine as rigidly as possible with the shaft of the sleeve bearing machines horizontal and the oil holes up. Line up the machine so that when loaded, the armature "floats" or runs with but slight end thrust. An open or semi-enclosed machine should be mounted away from dust and dirt. **To mount with feet above the machine**—(Ceiling mounted)—remove the brushes, marking them so they can be replaced in the same brushholder and in the same position relative to the brushholder. Remove both brackets and turn through 180 degrees to keep the oil holes on top when the motor is mounted. Interchange the leads to the brushholders. Attach the brackets to the frame, taking care that the shaft turns freely and that none of the leads rub any moving part. Replace the brushes. **To mount with the feet at the side of the machine**—(Wall Mounting)—remove the brushes, marking them so they can be replaced in the same brushholder and in the same position relative to the brushholder. Remove the front and rear brackets and the armature. Disconnect leads to the brushholders. Turn the frame end for end. Pull the leads through the frame so they extend out the opposite end of the frame. Take care that the leads will not rub any moving part when the machine is running. Turn each bracket so the oil hole will be on the top when the machine is mounted. Connect the brushholder leads to the brushholders. To maintain the same direction of rotation when changing from floor to left hand wall mounting interchange the leads to the brushholders, and if to right hand wall mounting connect each lead to the brushholder from which it was removed. Bring the line leads through the lead hole in the front bracket. Attach the brackets to the frame, taking care that the shaft turns freely and that none of the leads rub any moving part. Replace the brushes.

Mounting, Frame 6—Mount the machine as rigidly as possible. These machines are designed to be mounted on the floor, wall, or ceiling without change, the only requirement is to keep the shaft of the sleeve bearing machines horizontal. Line up the machine so that when loaded the armature "floats" or runs with but slight end thrust. An open or semi-enclosed machine should be mounted away from dust and dirt.

Direction of Rotation—Standard stock machines are arranged for clockwise rotation when looking at the end opposite the shaft extension unless ordered otherwise. **To change the direction of rotation on the frame 5 machines with two or three leads** take out the brushholders, remove the front bracket and interchange the leads to the brushholders. Replace the brushholder so the arrow on it will point in the direction of rotation and then replace the bracket taking care that the leads will not rub any moving part. **To change the direction of rotation on the frame 6 machines with two or three leads** remove the brushholder caps and the enclosing covers on the front bracket, interchange the leads to the brushholders, and replace the brushholder caps and the enclosing covers. **All shunt machines with four leds to have clockwise rotation** should have leads marked "A-1" and "F-2" connected to one line wire and leads marked "A-2" and "F-1" connected to the other line wire. For counter-clockwise rotation interchange leads marked "A-1" and "A-2". **All series machines with four leads to have clockwise rotation** should have lead marked "A-2" connected to one line wire, lead marked "A-1" connected to lead marked "S-1" and lead marked "S-2" connected to the other line wire. For counterclockwise rotation interchange leads marked "A-1" and "A-2".

Connections. Motors without Starter and Generators—If the machine has two leads connect one lead to each line wire. If the machine has three leads, connect the one marked "A-2" to one line wire, and leads marked "F-1" and "A-1" to the other line wire. If the machine is shunt or series wound with four leads connect as directed in paragraph "Direction of Rotation."

Motor with Starter—Compound motors with three leads should be connected with lead marked "F-1" connected to the terminal on starter marked "FLD", with lead marked "A-1" connected to the terminal on starter marked "ARM" and with lead marked "A-2" connected to the terminal on starter marked "Line —". One line wire should be connected to the terminal on the starter marked "Line" + and the other line wire to the terminal on the starter marked "Line —". **Shunt motors with four leads** to have clockwise rotation should be connected with lead marked "F-1" connected to the terminal on starter marked "FLD", with lead marked "A-2" connected to the terminal on starter marked "ARM" and with leads marked "F-2" and "A-1" connected to the terminal on starter marked "Line—". One line wire should be connected to the terminal on starter marked "Line +" and the other line wire to the terminal on starter marked "Line—". For counter clockwise rotation interchange leads marked "A-1" and "A-2". **Series Motors with four leads** to have clockwise rotation should be connected with lead marked "A-2" connected to the terminal on starter marked "ARM", with lead marked "A-1" connected to lead marked "S-1" and with lead marked "S-2" connected to the terminal on starter marked "Line—". One line wire should be connected to the terminal on starter marked "Line +" and the other line wire to the terminal on starter marked "Line—". For counter clockwise rotation interchange the leads marked "A-1" and "A-2".

For speed or voltage control—with a field rheostat connect the rheostat in the circuit between lead marked "F-1" and where this lead is to be connected as directed above. With an armature rheostat connect it in the circuit between lead marked "A-1" and where this lead is to be connected as directed above.

*To be filed as an Instruction Leaflet and as Renewal Parts Data; for Renewal Parts, see reverse side of this sheet.

TYPE SKL MOTORS AND GENERATORS
RENEWAL PARTS DATA

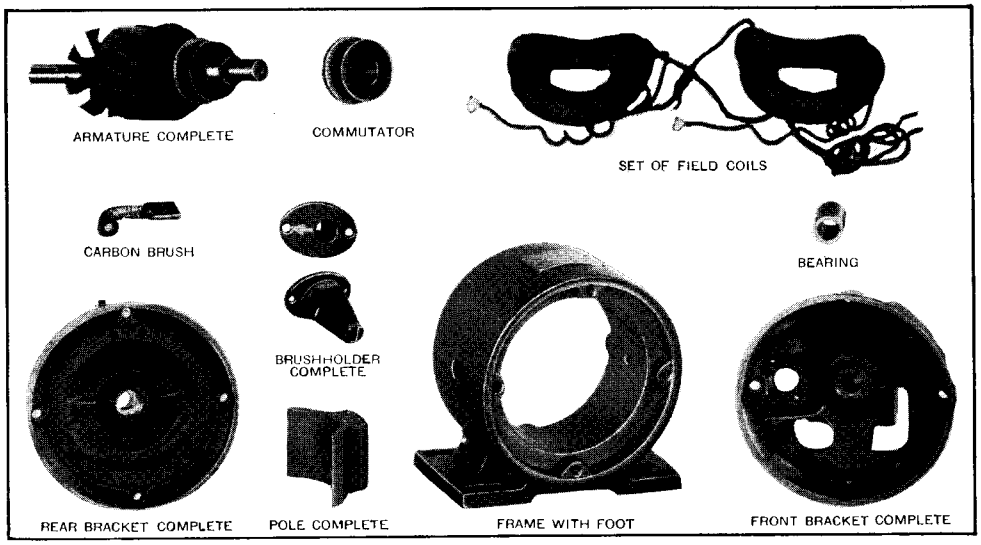

FIG. 3—RENEWAL PARTS FOR TYPE SKL MACHINES FRAME 5

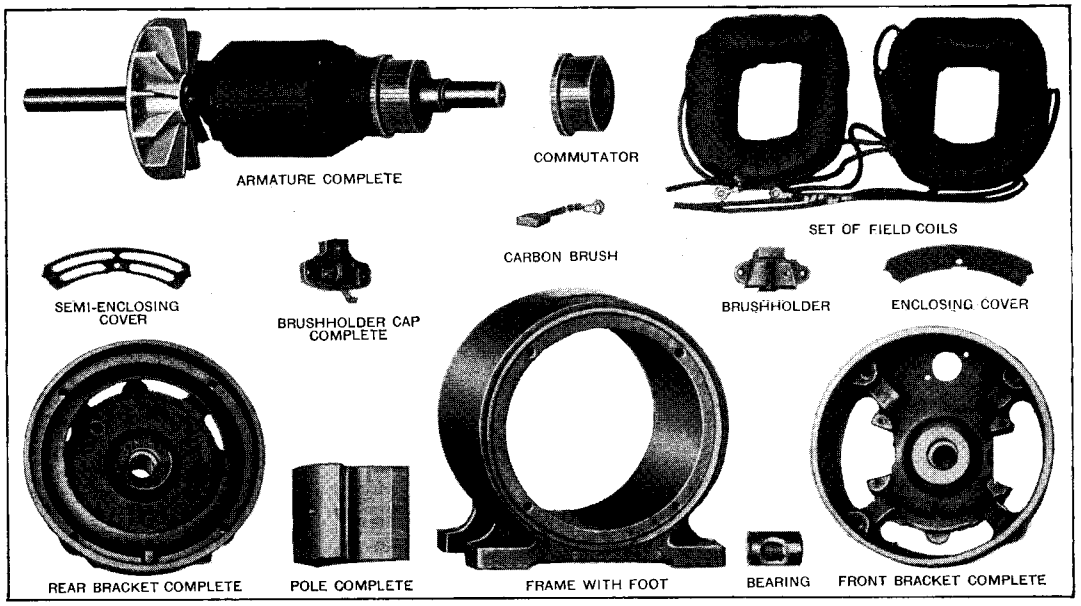

FIG. 4—RENEWAL PARTS FOR TYPE SKL MACHINES FRAME 6

RECOMMENDED STOCK OF RENEWAL PARTS

For Machines in use up to and including		2	5	15
Name of Part	No. Per Machine	Recommended For Stock		
Frame or Housing	1	0	0	0
Front Bracket	1	0	0	0
Rear Bracket	1	0	0	0
Bearing	2	0	2	4
Brushholder complete	2	0	2	2
Carbon brush	2	2	4	4
Brushholder cap complete	2	0	2	2
Field coil	1 set	0	1 set	2 set
Armature complete	1	0	0	1
Commutator	1	0	0	2

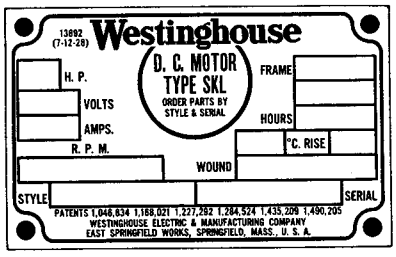

FIG. 5—NAME PLATE

Ordering Instructions

Quick shipments from local stock and prompt replies to inquiries, without the necessity of referring to the works for information, are possible only when complete identifying information for the parts is given. Careful observance of the following points on inquiries or orders is essential for correct shipments and prompt service.

1. Name the part, using the name shown on the illustration, Figs. 3 and 4, and state the quantity desired. The parts illustrated may not be identical in construction with the parts needed, but the views in Fig. 3 and 4, will assist ordering. When major repairs are necessary, it is advisable for the customer to buy a new motor.

2. Give the name plate reading. See illustration, Fig. 5.

3. State whether shipment is to be made by express, freight or by parcel post.

4. Send all orders or correspondence to the nearest sales office of the Company.

5. Small orders should be combined, so as to amount to a value of at least one dollar, as order-handling and shipping expenses prevent us from billing a smaller amount.